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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,552	11/06/2003	Kyu-Dong Jung	277/013	8318

7590

02/22/2006

LEE & STERBA, P.C.  
Suite 2000  
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Arlington, VA 22209

EXAMINER
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HARRISON, MONICA D

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/701,552

Applicant(s)

JUNG ET AL.

Examiner

Monica D. Harrison

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/2/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. Applicant's amendment filed 9/8/05 has been entered. Examiner acknowledges new claim 17 which has also been entered.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Cho et al (5,977,706).

2. Regarding claim 1, Cho et al discloses a method for vacuum-mounting at least one micro device on a substrate, the method comprising: attaching a getter (Figure 4d, reference 50) to an interior surface of a cavity (Figure 4d, references 40, 42 and 44) formed on a cover (Figure 4d, reference 40); aligning the cavity on the cover and the micro device on the substrate in a vacuum chamber (column 12, lines 8-25); detecting a degree of vacuum in the vacuum chamber (column 13, lines 4-14); adjusting the degree of vacuum in the vacuum chamber to achieve a predetermined degree of vacuum (column 13, lines 15-45); and bonding the cover and the substrates thereby sealing the cavity (column 18, lines 1-5).

3. Regarding claim 2, Cho et al discloses wherein the getter is substantially made of titanium (column 25, lines 42-44).

4. Regarding claim 3, Cho et al discloses wherein the bonding is performed after a predetermined time has lapsed after adjusting the degree of vacuum (column 18, lines 1-5).

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5. Regarding claim 4, Cho et al discloses wherein the inert gas is argon gas (column 19, lines 24-29).

6. Regarding claim 5, Cho et al discloses wherein the adjusting further comprises: discharging some of the inert gas in the vacuum chamber if an excessive amount of inert gas is injected into the vacuum chamber (column 19, lines 37-43).

7. Regarding claim 6, Cho et al discloses wherein aligning the cover and the substrate in the vacuum chamber comprises: adjusting a supporting means for supporting the cover and the substrate in the vacuum chamber (Figure 4d, references 44 and 46); and adjusting a transporting means for transporting the cover and the substrate in the vacuum chamber (column 12, lines 25-49).

8. Regarding claim 7, Cho et al discloses wherein bonding the cover and the substrate comprises anodic bonding (column 12, lines 16-20; optical).

9. Regarding claim 8, Cho et al discloses wherein bonding the cover and the substrate comprises: heating the cover to a predetermined temperature (column 13, lines 32-45); and applying a high voltage to the cover (column 10, line 39).

10. Regarding claim 9, Cho et al discloses an apparatus for vacuum-mounting at least one micro device, the apparatus comprising: a gas injecting section for injecting an inert gas into a vacuum chamber (column 25, lines 12-28); a substrate aligning section for aligning the micro device on a substrate and a cavity formed in a cover, the cavity housing a getter (column 12, lines 8-24); a bonding section for bonding the substrate and the cover together (column 12, lines 43-46); and a controlling section for controlling the substrate aligning section to align the substrate and the cover, for adjusting a degree of vacuum in the vacuum chamber to a

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predetermined degree of vacuum by controlling the gas injecting section, and for controlling the bonding section to bond the substrate and the cover together after the predetermined degree of vacuum is realized, thereby sealing the cavity (column 13, lines 46-58).

11. Regarding claim 10, Cho et al discloses wherein the substrate aligning section comprises: a supporting means for supporting both the substrate and the cover (Figure 4d, references 44 and 46); and a transporting means for transporting both the substrate and the cover (column 12, lines 25-49).

12. Regarding claim 11, Cho et al discloses wherein the bonding section comprises: a heat supplying part for applying a predetermined amount of heat to the cover (column 13, lines 41-45); and a high voltage supplying part for supplying a high voltage to the cover (column 10, line 39), wherein the controlling section controls the heat supplying part and the high voltage supplying part according to a preset bonding condition (column 13, lines 41-45).

13. Regarding claim 12, Cho et al discloses wherein the controlling section controls the bonding section to bond the substrate and the cover to be bonded together after a predetermined time has lapsed after the inert gas is injected (column 13, lines 46-57).

14. Regarding claim 13, Cho et al discloses wherein the getter is substantially made of titanium (column 25, lines 42-44).

15. Regarding claim 14, Cho et al discloses wherein the inert gas is argon gas (column 19, lines 24-29).

16. Regarding claim 15, Cho et al discloses further comprising: a gas discharging section for discharging the inert gas from the vacuum chamber to adjust the degree of vacuum in the vacuum chamber (column 19, lines 37-43).

17. Regarding claim 16, Cho et al discloses wherein the cover is a glass plate (column 12, lines 56-57).

18. Regarding claim 17, Cho et al discloses wherein adjusting the degree of vacuum further comprises injecting an inert gas into the vacuum chamber (column 19, lines 37-43).

***Response to Arguments***

19. Applicant's arguments with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica D. Harrison whose telephone number is 571-272-1959.

The examiner can normally be reached on M-F 7:00am-3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Monica D. Harrison  
AU 2813

mdh  
February 16, 2006

  
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